

**Availability and limitations of thallium-201 myocardial SPECT
quantitative analysis: Assessment as daily routine
procedure for ischemic heart disease**

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To determine the availability and limitations of the detection of ischemic lesions by stress thallium-201 myocardial SPECT as the daily routine procedure, we compared and evaluated the detectability of the quantitative analysis (%uptake and washout rate (WR)) and visual evaluation in 104 patients with effort angina and 17 normal subjects.

Visual evaluation combined with WR analysis resulted in significantly higher sensitivity (88.0%) but lower specificity (60.2%) than the other methods. The sensitivity by visual evaluation was quite low in multivessel disease (MVD), and in the regions supplied by mild coronary stenosis or by the left circumflex artery. These were markedly improved by combining visual evaluation and WR analysis, but sensitivity in the MVD group was unsatisfactory even with this analytic method in comparison with the single vessel disease group. One of the causes of low sensitivity in the MVD group might be the "true negative": No induction of the ischemia in the regions of milder stenosis, or the regions supplied by the collateral coronary flow.

We therefore conclude that the combination of visual evaluation as a qualitative analysis and WR analysis as a quantitative analysis, is the most useful daily routine procedure as a screening test for detecting ischemia.

Key words: thallium myocardial SPECT, ischemic heart disease, washout rate, Bull's eye display, quantitative analysis